

AT THE OFFICE - THE GRASS IS GREENER

From their turf-topped office, two up and coming scientists launch a new company and a new eco friendly lifestyle, *writes Rose Dunnage.*

Geophysicist, Sarah Parker, 41, and exploration geologist, Andrew Barnwell, 47, professionally work within exacting disciplines. Two years ago they had a golden opportunity to review their lifestyle from a standing start, in North Wales.

Now as Barnwell Parker Geoscience Ltd, one month old and part of a new geo science cluster group of companies, Geoscience Wales Limited, Sarah and Andrew can live, work and bring up a young family to live an eco friendly lifestyle.

With the oil and gas industry booming, they felt this was the chance to hit the ground running. The nine to five cliché emerged happily a no - go option with Joe, 8, and Nia 2, to bring up.

As a life long turf roof fan and fantasist, their cosy office dazzled me. The green grass on top of the cabin sweeps down almost to the ground at the back, merging gracefully into its hilltop setting only a mile or so from picturesque Conwy, overlooking the estuary.

Andrew told the magazine: "We feel our approach is realistic backed by hard statistics, not the stuff of well meaning, romantic but uninformed dinner party eco chatter. You must look at the environmental impact of building and balance it against the environmental impact of usage, with the lowest score on both."

The grassed roof wooden cabin or 'Fjell Hytte,' as its called in Norway, from where the inspiration came, when Sarah and Andrew worked there two years ago, ticks all their self selected boxes.

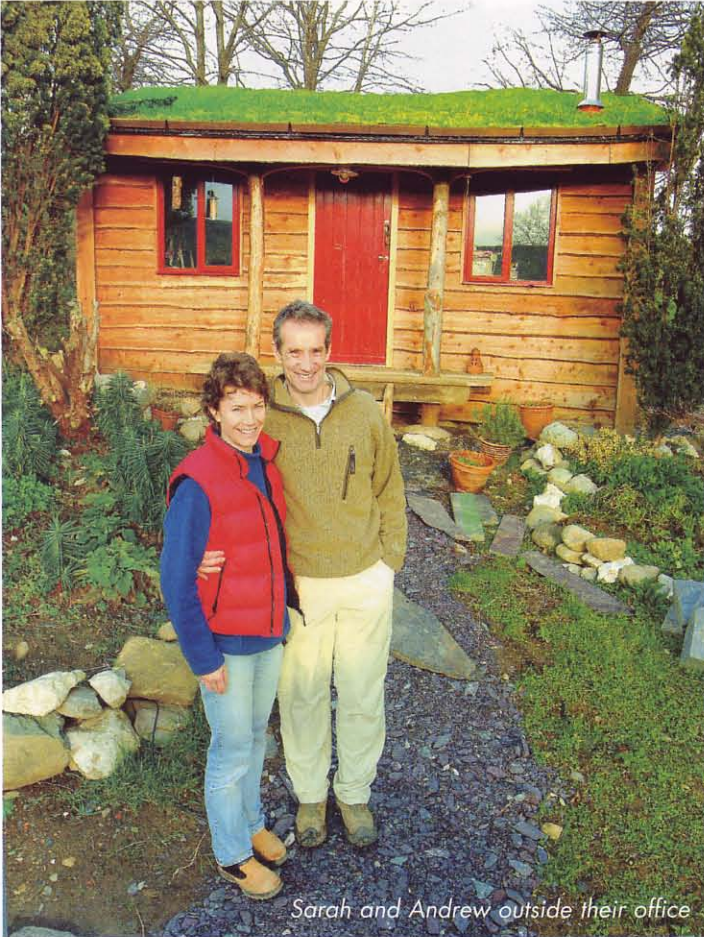
Insulated with natural sheep fleece from Wales, it also attracted a well-earned grant.

The couple bought a derelict farm cottage, with an acre or so of land in 2004 and went about creating their own eco friendly environment on a sensible but far from elastic budget.

Whilst planning the refurbishment and extension of the cottage

Below Sarah and Andrew with daughter Nia and son Joe.



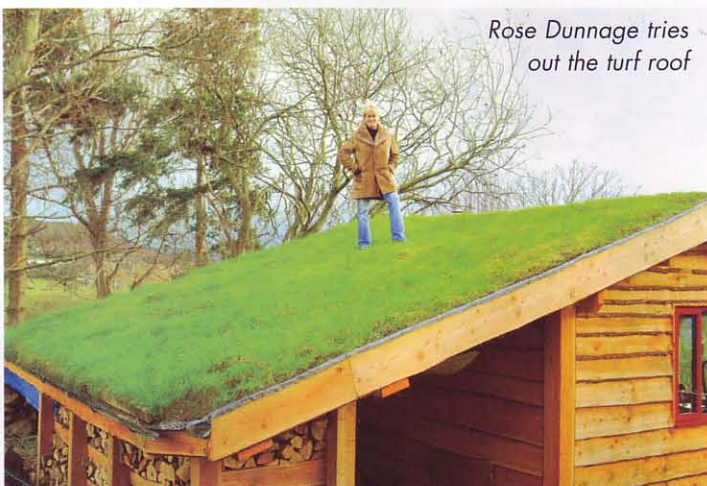


Sarah and Andrew outside their office

to a custom designed 4-bedroom family home, they desperately needed somewhere to work. So it was fast forward to their good friend Dan Collister, a furniture maker and woodcraft specialist nearby Penmachno, with a vision.

Happily it was the same vision. The initial thoughts on a straw bale design hit the buffer on time faults. So after importing some special Norwegian turf roof liner, they studied the right wooden construction based on load bearing for the ten tons of roof when wet, which is often.

Dan launched himself heart and soul into the project. From a standing start it took around 3 months and the grass was planted in June. The new office, incidentally onto whose roof one can easily step, ticked all the right eco boxes.



Rose Dunnage tries out the turf roof

Box one; ticked for Andrew, was no need to quarry and transport slate, box two; it blends into the scenery and box three; the roof makes for a cocoon of insulation, teamed with the efficient liner and sheep's wool in the wall cavities.

It is sustainable since all timber building including the gloriously warm light Maplewood floor, with a satin smooth finish, is a mixture of recycled and renewable local larch planks from nearby. Talking of wood, logs which are carbon neutral, ratchet up the brownie points on energy efficiency, as a compact wood burner in the corner exudes a friendly and constant heat, conserved with double glazing, now de rigour for building regulations.

Sarah said: "There has to be balance. So the eco 'look at me' items such

wind turbines and solar panels on the roof, cost a lot of money, on balance, against a perceived but not real energy cost saving."

As their house next door takes shape, Sarah and Andrew's mantra is 'insulation, insulation, insulation'

Not green in terms of initial outlay but not using wool insulating the house was a decision swayed by long term energy saving as alas, wool is not as efficient over many years as the modern closed cell man made building product.

The insulation works hand in hand with an incredible underground network of 800 meters of piping, which serves the mundanely named 'ground source heat pump.'

What's in name? The system not to confused with 'geo thermal heating' miraculously means year round under floor heating plus central heating. The pipes, buried some one to two metres below the ground, extract heat from ground water, which is in fact from the warmth of the sun at that depth.

What warmth and what sun one may ask? It seems that if the water emerges from its trip round the pipe work at one degree more than it goes into the ground, then bingo, that heat can be utilised with maximum efficiency.



Sarah at work

The multiplier effect works out at one unit of energy fed into the system will about four times that amount, in return. Andrew said: "In fact it uses our garden as a very large solar panel."

Talking of gardens, for all those desperately wondering how Sarah and Andrew cut the grass on the office roof the answer is they don't.

Sarah who is now also a director of Geoscience Wales and can be contacted at: sarahparker@geoscience-wales.co.uk